AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

1-74 (Cancelled)

75. (Currently amended) A method for applying substances ~~such~~ as including monomers to a support for the combinatorial synthesis of molecule libraries, comprising the steps of:

embedding at least two different amino acid monomers or oligonucleotide monomers at a temperature of less than 90° C within a solvent that is in a solid state of aggregation, thereby forming monomer-immobilizing transport units;

applying these transport units in the solid state of aggregation onto a solid support by laser printing at a temperature of less than 90° C;

wherein after application to the support, the transport units are remaining in the solid state of aggregation;

thereafter mobilizing the monomers and diffusing the monomers within the solvent by changing the transport units from a solid state of aggregation to a liquid state of aggregation, and

covalently linking the thus mobilized monomers to molecules located on the support through a linking reaction, thereby yielding a number of different monomers coupled to the support in defined locations and washing away non-linked monomers

applying more than one layer of monomers to the support, whereby monomers from a second layer are covalently linked to monomers from a first layer that were previously linked to the support and washing away the ~~transport units and~~ non-linked monomers.

76.-77. (Cancelled)

78. (Previously presented) The method of claim 75, wherein the temperature at the embedding step is in a range between -10°C and 80° C.

79. (Previously presented) The method of claim 78, wherein the range is between 0°C and 40°C.

80. (Previously presented) A method for the combinatorial synthesis of molecule libraries comprising the steps of:
    a) applying amino acid monomers or oligonucleotide monomers to a solid support by positioning transport units in a solid state of aggregation at different times through laser printing on the support, the transport units comprising immobilized monomers, wherein the transport units differ from each other by the monomers immobilized within;
    b) inducing a change in the state of aggregation in the immobilized monomers from solid to liquid by means of energy supply or by a chemical solvent to thereby effect a free diffusion of the monomers on the support;
    c) then coupling to the support at least two different of the so diffused monomers at the same time in one single combinatorial synthesis by means of reactive groups on the support;
    d) repeatedly applying said monomers to the support followed by a coupling of monomers to the support in defined locations to generate a library of different molecules at different positions on the support, in each case covalently linking the monomers to the support, and washing away the transport units and non-linked monomers.

81. (Currently amended) The method of claim 80, wherein the monomers in the transport units in their immobilized state are blocked from reacting with the reactive groups on the support.

82. (Previously presented) The method of claim 80, wherein the monomers for the combinatorial synthesis array are peptides or nucleic acids for forming a patterned deposition of peptide or nucleic acid monomers on the support.

84. (Previously presented) The method of claim 75, wherein the laser printing is carried out with one selected form the group consisting of laser printer, laser copier and arrays of micro lasers.

85. (Cancelled)

86. (Previously presented) The method of claim 75, wherein mixtures of amino acid monomers or oligonucleotide monomers are used.

87. (Currently amended) A method for applying substances to a support for the combinatorial synthesis of molecule libraries, comprising the steps of:

- embedding peptide or nucleic acid monomers into a matrix that includes at least one solvent at a temperature of less than 90° C at a solid state of aggregation thereby forming transport units, said transport units differ from each other by the monomers immobilized within; wherein the monomers are selected from the group consisting of amino acid monomers, nucleic acid monomers and derivatives of amino acid or nucleic acid monomers suitable for solid phase synthesis;
- ~~electrostatically charging said transport units and~~ positioning by laser printing, at different times, the transport units to a solid support, whereby the transport units remain in a solid state of aggregation and the monomers within the transport units are temporarily blocked from coupling to the support;
- changing the transport units from a solid state of aggregation to a liquid state of aggregation, thereby mobilizing the monomers and diffusing the monomers within the transport units thus permitting a free diffusion of the monomers on the support;
- covalently linking the thus mobilized monomers to molecules located on the support through a linking reaction, thereby yielding a number of different monomers coupled to the support,

- ~~repeatedly applying further monomers in defined locations, in each case by covalently linking the monomers to previously linked monomers and washing away all non-linked molecules~~

- wherein more than one layer of monomers is applied repeatedly one after the other to the support in defined positions, in each case followed by the covalent linking of the substances to the support and washing away non-linked substances.

88. (New) The method of claim 75, wherein the mobilizing step is carried out by one of the elements selected from the group of applying electromagnetic waves, applying electrical voltage and applying thermal energy.

89. (New) The method of claim 88, wherein the electromagnetic waves are laser light.

90. (New) The method of claim 75, wherein the monomers bind to particles that include magnetic constituents.

91. (New) The method of claim 75, wherein the temperature of the solvent and the temperature of the transport units applied to the support is less than 50° C.

92. (New) The method of claim 75, wherein the transport units have a particle size in a range between 0.2 µm and 200 µm at a solid state of aggregation at a temperature of less than 90°C.

93. (New) The method of claim 92, wherein the temperature is less than 50°C.

94. (New) The method of claim 92, wherein the particle size is between 2 µm and 40 µm.

95. (New) The method of claim 75, wherein the support is held at a temperature of at least 10° C lower as compared to the temperature of the transport units until starting the linking reaction of the monomers to the molecules on the support.

96. (New) The method of claim 75, wherein the monomers on the support are cooled and frozen.

97. (New) The method of claim 75, wherein the monomers include at least one element or bind to such particles that include an element selected from the group consisting of: diphenyl formamide; monomers, dimers, trimers suitable for combinatorial synthesis; D amino acids, L amino acids, nucleosides, derivatized nucleosides or mirror images, or derivatives thereof; polystyrene and cellulose.

98. (New) The method of claim 75, further comprising the step of, after the linking reaction, detaching protective groups by standard methods so as to form free amino- or hydroxyl groups for linkage with monomers.

99. (New) The method of claim 75, wherein the support used is one or more selected form the group consisting of polystyrene films, paper, CDs, MODs, DVDs or FMDs.

100. (New) The method of claim 75, wherein the mobilization of the immobilized monomers in the transport units is carried out by means of one of the elements selected from the group of applying an electrical voltage, magnetic fields, and thermal energy.